

U.S. Appln. No. 10/628,187  
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**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Previously Presented) A process for the controlled delivery of intense heat in medical, veterinary procedures, or biological research laboratories comprising the steps of:  
  
forming a mixture containing hydrogen and oxygen;  
  
flowing the mixture through a conduit having a supply end and a delivery end;  
  
reacting the mixture in the presence of a catalyst proximate to the delivery end to generate heat; and  
  
applying the heat to tissue.
2. (Original) The process of claim 1 wherein the tissue comprises tissue selected from the group consisting of tumors, warts, cataracts, plaque, kidney stones, gallstones, dental tissue, tonsils, adenoids, bone tissue, sarcomas, cartilaginous tissue, connective tissues, muscles, neurons, keratin cells, adipose tissue, cardiac tissue, intestinal tissue, pulmonary tissue, lymphoid tissue, and reproductive tissue.
3. (Original) The process of claim 1 wherein the heat removes a predetermined number of tissue layers.
4. (Original) The process of claim 1 wherein the heat cauterizes blood vessels.
5. (Original) The process of claim 4 further comprising the step of cutting the tissue.
6. (Original) The process of claim 5 wherein the tissue is cut using the heat.
7. (Original) The process of claim 5 wherein the tissue is cut using a cutting blade and then cauterized using the heat.
8. (Original) The process of claim 1 wherein the heat is used to cauterize neurological synaptic regions.

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9. (Original) The process of claim 1 wherein the conduit has an effective diameter of less than 400 micrometers.
10. (Original) The process of claim 9 wherein the conduit has an effective diameter of about 200 micrometers.
11. (Original) The process of claim 1 further comprising the step of dissociating water to form hydrogen and oxygen, before the mixing step.

Claim 12 (Canceled)

13. (Previously Presented) The process of claim 1 wherein the catalyst comprises at least one catalytic metal selected from the group consisting of scandium (Sc), titanium (Ti), vanadium (V), chromium (Cr), manganese (Mn), iron (Fe), cobalt (Co), nickel (Ni), copper (Cu), zinc (Zn), yttrium (Y), zirconium (Zr), niobium (Nb), molybdenum (Mo), technetium (Tc), ruthenium (Ru), rhodium (Rh), palladium (Pd), silver (Ag), cadmium (Cd), hafnium (Hf), tantalum (Ta), tungsten (W), rhenium (Re), osmium (Os), iridium (Ir), platinum (Pt), gold (Au), mercury (Hg), and mixtures thereof.
14. (Original) The process of claim 1 wherein the step of reacting the mixture includes initiating the reaction.
15. (Original) The process of claim 14 wherein the initiation occurs by supplying heat or a spark.
16. (Previously Presented) The process of claim 1 further comprising the step of flowing hydrogen and oxygen prior to the step of forming a mixture, wherein the flow rates of the hydrogen and oxygen are controlled.
17. (Original) The process of claim 1 further comprising the step of controlling the ratio of hydrogen to oxygen in the mixture.
18. (Original) The process of claim 1 further comprising the step of controlling the flow rate of the mixture.
19. (Original) The process of claim 18 wherein the flow rate is controlled by electrical power.

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Claims 20-23 (Canceled)